

Industrial
Surfactants

Ernest W. Flick

np

INDUSTRIAL SURFACTANTS

by

Ernest W. Flick



NOYES PUBLICATIONS
Park Ridge, New Jersey, U.S.A.

Copyright © 1988 by Ernest W. Flick

**No part of this book may be reproduced or utilized in
any form or by any means, electronic or mechanical,
including photocopying, recording or by any informa-
tion storage and retrieval system, without permission
in writing from the Publisher.**

Library of Congress Catalog Card Number: 88-22635

ISBN: 0-8155-1173-6

Printed in the United States

Published in the United States of America by

Noyes Publications

Mill Road, Park Ridge, New Jersey 07656

10 9 8 7 6 5 4 3 2 1

Library of Congress Cataloging-in-Publication Data

Flick, Ernest W.

Industrial surfactants / by Ernest W. Flick.

p. cm.

Includes index.

ISBN 0-8155-1173-6 :

1. Surface active agents. I. Title.

TP994.F58 1988

668'.1--dc19

88-22635

CIP

*To
Raymonde and Charles Amsellem
and
Alain Amsellem (1948-1983)
and
Patricia, Joél, Alexia and Audrey Horny*

Preface

This volume describes almost 3,500 surfactants which are currently available for industrial usage. The book will be of value to industrial, technical and managerial personnel involved in the specification and use of these products. It has been compiled from information received from numerous industrial companies and other organizations.

Industrial surfactants find uses in almost every industry, from asphalt manufacturing to carpet fibers, from petroleum production to leather and fur processing. Examples of the types of chemicals used as surfactants are fatty alcohol sulfates, alkylolamides, alkoxylates, sulfosuccinates, amines, quaternaries, phosphate esters, acid esters, block copolymers, betaines, imidazolines, alkyl sulfonates, etc. The market for these products has, and is expected to continue to have, a steady growth rate, of the order of 4 to 5%, and in some cases up to 10% per year.

The data included represent selections from manufacturers' descriptions made at no cost to, nor influence from, the makers or distributors of the materials. Only the most recent information has been included. It is believed that all of the products listed here are currently available, which will be of utmost interest to readers concerned with product discontinuances.

Products are presented by company, and the companies are listed alphabetically. The table of contents is organized in such a way as to serve as a subject index to the book. Also included is a Trade Name Index, for easy and rapid location of products by the reader. In addition, another section, which will be useful, contains the Suppliers' Addresses. It can be found immediately following the Product Information section.

The book lists the following product information, as available, in the manufacturer's own words:

- (1) Company name and product category.
- (2) Trade name and product numbers.
- (3) Product Description: a description of the product, as presented by the supplier.

My fullest appreciation is expressed to the companies and organizations who supplied the data included in this book.

Newburyport, Massachusetts
August 1988

Ernest W. Flick

NOTICE

To the best of our knowledge the information in this publication is accurate; however, the Publisher does not assume any responsibility for the accuracy or completeness of, or consequences arising from, such information. This Industrial Guide does not purport to contain detailed user instructions, and by its range and scope could not possibly do so. Mention of trade names or commercial products does not constitute endorsement or recommendation for use by the Publisher.

In some cases industrial surfactants may be toxic, and therefore due caution should be exercised. Final determination of the suitability of any information or product for use contemplated by any user, and the manner of that use, is the sole responsibility of the user. We strongly recommend that users seek and adhere to a manufacturer's or supplier's current instructions for handling each material they use.

The Author and Publisher have used their best efforts to include only the most recent data available. The reader is cautioned to consult the supplier in case of questions regarding current availability.

Contents

PRODUCT INFORMATION	1
Air Products and Chemicals, Inc.	2
SURFYNOL Surfactants	2
SURFYNOL PC Defoamer; SURFYNOL SE Surfactant;	
SURFYNOL TG Surfactant; SURFYNOL GA Surfactant;	
SURFYNOL CT-136 Surfactant; SURFYNOL TG-E Surfac-	
tant; SURFYNOL 61 Surfactant; SURFYNOL 82 Surfactant;	
SURFYNOL 82S Surfactant	
SURFYNOL 400 Series of Surfactants	3
SURFYNOL 465; SURFYNOL 485; SURFYNOL 440	
SURFYNOL 104 Surfactant	4
SURFYNOL 104A Surfactant; SURFYNOL 104E Surfactant;	
SURFYNOL 104H Surfactant; SURFYNOL 104BC Surfactant;	
SURFYNOL 104 PA Surfactant; SURFYNOL PG-50 Surfac-	
tant; SURFYNOL 104PG Surfactant; SURFYNOL 104S Sur-	
factant	
Akzo America, Inc.	5
Armak Chemicals	5
ARMEEN Z Amphoteric Compound	5
AROMOX Amine Oxides	5
C612; C/12-W; T/12; DMC; DMC-W; DM16; DMHT	
armac Aliphatic Amine Acetates	6
C; 18D; HT; T	
DUOMEEN Aliphatic Diamines	6
C; C Special; T; T Special; O; S	
DUOMEEN and DUOMAC Diamine Salts	7
DUOMEEN TDO; DUOMAC T	
ARQUAD and DUOQUAD Quaternary Ammonium Chlorides	7
ARQUAD 12-33; ARQUAD 12-50; ARQUAD C-33;	

ARQUAD C-50; ARQUAD 16-29; ARQUAD 16-50; ARQUAD 18-50; ARQUAD HT-50; ARQUAD T-27W; ARQUAD T-50; ARQUAD S-50; ARQUAD 2C-75; ARQUAD 2HT-75; ARQUAD 2S-75; ARQUAD B-100; DUOQUAD T-50	8
ETHOMEEN Polyethoxylated Amines C/12; C/15; C/20; C/25; 18/12; 18/15; 18/20; 18/25; 18/60; T/12; T/15; T/25; T/60; O/12; O/15; O/25; S/12; S/15; S/20; S/25 T/13; T/20; T/25;	9
Akzo Chemie America Wetting Agents <i>INTERWET 33; INTERWET 43; INTERWET 212</i>	10 10
Albright & Wilson, Inc. Surfactants Fatty Alcohol Sulfates <i>EMPICOL AL30/T; EMPICOL AL70; EMPICOL LX100; EMPICOL LXV100; EMPICOL L2V/E; EMPICOL LZV/E; EMPICOL 0303; EMPICOL 0303V; EMPICOL TL40/T</i>	11 11 11
Fatty Alcohol Ether Sulfates <i>EMPICOL EAC70; EMPICOL ESB3; EMPICOL ESC3; EMPICOL ESB70; EMPICOL ESC70</i>	12
Aryl Sulfonic Acids and Salts <i>ELTESOL SCS93; ELTESOL SX Pellets; ELTESOL SX93; ELTESOL TA96; ELTESOL TSX-A; NANSA SSA; NANSA SSA; NANSA HS80S; NANSA HS85S</i>	13
Tertiary Amines and Derivatives <i>EMPIGEN AB; EMPIGEN AF; EMPIGEN AH; EMPIGEN BB; EMPIGEN BS; EMPIGEN CDR10; EMPIGEN CDR30; EMPIGEN CM; EMPIGEN FRC75S; EMPIGEN FRC90S; EMPIGEN OB</i>	14
Fatty Alcohols <i>LAUREX 4550</i>	15
Alkylolamides and Alkoxylates <i>EMPILAN CDE; EMPILAN CME; EMPILAN 2502; EMPILAN LDE; EMPILAN KM50; EMPILAN 0004</i>	16
Alcolac, Inc. CYCLOGOL Fatty Alcohols, Ethoxylated Alcohols and Nonionic Wax Blends <i>CYCLOGOL Cetyl Alcohol; CYCLOGOL Cetyl-Stearyl Alcohol; CYCLOGOL Cetostearyl Alcohol; CYCLOGOL Stearyl Alcohol</i>	17 17
Ethoxylated Alcohols <i>CYCLOGOL 25-3; CYCLOGOL 25-7; CYCLOGOL 25-9; CYCLOGOL 91-6; CYCLOGOL NP-95</i>	17
Blended Alcohols/Ethoxylates <i>CYCLOGOL NI</i>	18
CYCLOMOX Amine Oxides <i>CYCLOMOX C; CYCLOMOX CO; CYCLOMOX L;</i>	19

<i>CYCLOMOX LO; CYCLOMOX SO</i>	
<i>CYCLOPHOS Phosphate Esters-Free Acid Form</i>	20
<i>CYCLOPHOS P4; CYCLOPHOS PB 01; CYCLOPHOS PB 05;</i>	
<i>CYCLOPHOS PB 12; CYCLOPHOS PE 5; CYCLOPHOS PE 9;</i>	
<i>CYCLOPHOS PE 120; CYCLOPHOS PG 55; CYCLOPHOS</i>	
<i>PL 3; CYCLOPHOS PL 6A; CYCLOPHOS PL 31;</i>	
<i>CYCLOPHOS PO 3</i>	
<i>CYCLOPOL Sulfosuccinates and Sulfosuccinamates.</i>	22
<i>Sulfosuccinates</i>	22
<i>CYCLOPOL SB 5; CYCLOPOL SBCP; CYCLOPOL SBF 12;</i>	
<i>CYCLOPOL SBFA 30; CYCLOPOL SBG 212; CYCLOPOL</i>	
<i>SBG 280; CYCLOPOL SBL 203; CYCLOPOL SBR 3;</i>	
<i>CYCLOPOL SBU 185; CYCLOPOL SBDO</i>	
<i>Sulfosuccinamates</i>	23
<i>CYCLOPOL SFTA 269</i>	
<i>CYCLORYL Anionic Blends, Bases and Concentrates.</i>	24
<i>Cosmetic Concentrates</i>	24
<i>CYCLORYL ALC; CYCLORYL ANL; CYCLORYL CN;</i>	
<i>CYCLORYL COSO; CYCLORYL DCA; CYCLORYL EW;</i>	
<i>CYCLORYL M 1; CYCLORYL NWC; CYCLORYL TK;</i>	
<i>CYCLORYL XL-M</i>	
<i>Household and Industrial Concentrates</i>	26
<i>CYCLORYL Anionic 68; CYCLORYL LDC; CYCLORYL</i>	
<i>MOR; CYCLORYL NAX; CYCLORYL PRO CONC. I;</i>	
<i>CYCLORYL SMC; CYCLORYL TS 30</i>	
<i>CYCLORYL Sulfates, Ether Sulfates and Sulfonates</i>	27
<i>Lauryl Sulfates</i>	27
<i>CYCLORYL 21 LS; CYCLORYL DA; CYCLORYL MA;</i>	
<i>CYCLORYL MG; CYCLORYL WAT; CYCLORYL WAT-1</i>	
<i>Lauryl Ether Sulfates</i>	28
<i>CYCLORYL MA 360; CYCLORYL NA; CYCLORYL NA 61;</i>	
<i>CYCLORYL NA61 CG; CYCLORYL N 70</i>	
<i>Sulfonates</i>	29
<i>CYCLORYL AOS 40; CYCLORYL DDB 40; CYCLORYL</i>	
<i>DDB 60 T; CYCLORYL DHB 93 A</i>	
<i>Myristyl Ether Sulfates</i>	30
<i>CYCLORYL ME 60; CYCLORYL ME 361</i>	
<i>Other Alkyl Ether Sulfates</i>	30
<i>CYCLORYL NB 60</i>	
<i>Lauroyl Sarcosinates</i>	30
<i>CYCLORYL TEALS</i>	
<i>Sulfonates</i>	30
<i>CYCLORYL ABSA</i>	
<i>CYCLOTERIC Amphoteric</i>	31
<i>CYCLOTERIC BET-C 30; CYCLOTERIC BET-CS;</i>	
<i>CYCLOTERIC BET-C 41; CYCLOTERIC BET-I 30;</i>	
<i>CYCLOTERIC BET-L 31; CYCLOTERIC BET-O 30;</i>	
<i>CYCLOTERIC BET-OB 50; CYCLOTERIC BET-OD 40;</i>	

CYCLOTERIC BET-W; CYCLOTERIC BET-T2	40
CYCLOTON Cationic Surfactants	33
CYCLOTON D261C/75; CYCLOTON D262C/70;	
CYCLOTON M270C/18; CYCLOTON M270C/85;	
CYCLOTON M214B/99; CYCLOTON M242B/99;	
CYCLOTON M242C/29	
Blends	34
CYCLOTON 75C; CYCLOTON CT 100; CYCLOTON SCS	
Surfactants	35
ALCONATE Sulfosuccinate and Sulfoctannamate	35
ALCONATE L-3; ALCONATE LEA; ALCONATE CPA;	
ALCONATE D-6; ALCONATE 2CH; ALCONATE 2CSA	
ABEX Proprietary Surfactants	36
ABEX 18S; ABEX 12PS; ABEX 22S; ABEX 23S; ABEX 26S;	
ABEX 33S; ABEX 36A; ABEX VA 40; ABEX VA 50; ABEX	
JBK; ABEX 1404	
AKYPO Alkyl Polyether Carboxylates	38
AKYPO RLM-Q38; AKYPO RLM-45; AKYPO RLM-100;	
AKYPO RLM-130	
AKYPO Sodium Salts	39
AKYPO RLM-Q38NV; AKYPO RLM-45NV; AKYPO RLM-	
100 NV; AKYPO RLM-130NV; AKYPO RLM-160NV	
SIPONATE	40
SIPONATE DS-4; SIPONATE DS-10; SIPONATE 330;	
SIPONATE A246L; SIPONATE A246LX; SIPONATE A 167;	
SIPONATE 301-10F	
SIPON Alkyl Sulfates	42
SIPON L-22; SIPON L-22HV; SIPON LSB; SIPON LT-6;	
SIPON LD; SIPON LM	
SIPON Alkyl Ether Sulfates	43
SIPON EA Y; SIPON EA; SIPON 201-20; SIPON ESY; SIPON	
ES2; SIPON ES; SIPON 201-10; SIPON ES-7; SIPON ES-12	
SIPEX Alkyl Sulfates	44
SIPEX BOS; SIPEX CAV; SIPEX EC-111; SIPEX OK; SIPEX	
OLS; SIPEX OS; SIPEX LCP; SIPEX SB; SIPEX UB; SIPEX	
TDS	
SIPEX Alkyl Ether Sulfates	46
SIPEX EST-30; SIPEX EST-75	
SIPEX Blended Products	47
SIPEX 7WC; SIPEX 206-C; SIPEX 206-CSP; SIPEX 101;	
SIPEX 106R; SIPEX 108; SIPEX 302; SIPEX 402	
SIPOMIDE Alkanolamides	48
SIPOMIDE 843; SIPOMIDE 1500	
SIPOTERIC Amphoteric	49
SIPOTERIC 1398; SIPOTERIC HDS; SIPOTERIC GPA	
SIPOTERIC Betaines	49
SIPOTERIC CB; SIPOTERIC COB	
SIPOTERIC Amphoteric Blends	50

<i>SIPOTERIC GSC; SIPOTERIC 1304; SIPOTERIC 1112</i>	
SIPOTERIC Liquid Pearl Concentrates	50
<i>SIPOTERIC 1442; SIPOTERIC 1444; SIPOTERIC 1450</i>	
SIPOTERIC Propionates	51
<i>SIPOTERIC CAPA; SIPOTERIC SLIP</i>	
ALACSAN Cationic Products	51
<i>ALACSAN 7LUF; ALACSAN QNA</i>	
SIPONIC Nonionic Surfactants	52
<i>E-2; E-3; E-5; E-7; E-10; E-15; F-160; F-300; F-400; F-707;</i>	
<i>SIPONIC Y-500-70; SIPONIC C-20; SIPONIC L-4; SIPONIC</i>	
<i>L-7-90; SIPONIC L-12; SIPONIC L-25; SIPONIC 260;</i>	
<i>SIPONIC SK; SIPONIC 218; KROMFAX; SIPONIC TD-3;</i>	
<i>SIPONIC TD-6; SIPONIC TD-12; SIPONIC NP-4; SIPONIC</i>	
<i>NP-6; SIPONIC NP-7; SIPONIC NP-8; SIPONIC NP-9;</i>	
<i>SIPONIC NP-9.5; SIPONIC NP-10; SIPONIC NP-13;</i>	
<i>SIPONIC NP-15; SIPONIC NP-40; SIPONIC NP-407;</i>	
<i>SIPONIC NP-707</i>	
American Cyanamid Co.	59
Aerosol Surfactants	59
Sodium Di-Alkyl Sulfosuccinates	59
<i>TR-70; OT-75; OT-B; GPG; OT-100; OT-S; OT-70PG; MA-80;</i>	
<i>A-196; A-196-40; AY-65; AY-100; AY-B; IB-45</i>	
A-268	61
A-102	62
A-103	62
501.	62
22	62
18	62
OS	63
C-61	63
American Hoechst Corp.	68
Surfactants	68
<i>HOSTAPUR CVA Highly Conc.; HOSTAPUR DOS Highly Conc.;</i>	
<i>HOSTAPUR CX Hi. Conc.; HOSTAPUR DAD; PENTEX FR;</i>	
<i>PENTEX OS-NF; PENTEX PBR; PENTEX WS</i>	
Angus Chemical Co.	72
ALKATERGE Surface Active Agents	72
<i>ALKATERGE-E Nonvolatile Surface Active Agent;</i>	
<i>ALKATERGE-T; ALKATERGE T-IV Surface Active Agent</i>	
BASF Corp.	74
ICONOL Alkylphenol Ethoxylates	74
<i>NP-30; NP-30-70%; NP-40; NP-40-70%; NP-50; NP-50-70%;</i>	
<i>NP-70; NP-70-70%; NP-100; NP-100-70%; OP-10; OP-30;</i>	
<i>OP-30-70%; OP-40; OP-40-70%</i>	
ICONOL Decyl and Tridecyl Alcohol Ethoxylates	76
<i>DA-4; DA-6; DA-6-90%; DA-9; TDA-3; TDA-6; TDA-8; TDA-</i>	
<i>8-90%; TDA-9; TDA-10</i>	
PLURAFAC Linear Alcohol Alkoxylates	78

A-38; A-39; B-25-5; B-26; C-17; D-25; RA-20; RA-30; RA-40; RA-43	
PLURONIC Block Copolymer Surfactants	80
L 10; L 31; L 35; F 38 (Dev.); L 42 (Dev.); L 43; L 44; L 61; L 62; L 62D; L 62LF; L 63; L 64; P 65; F 68; F 68LF; L 72; P 75 (Dev.); F 77; L 81; P 84; P 85; F 87; F 88; L 92; F 98; L 101; P 103 (Dev.); P 104; P 105; F 108; L 121; L 122; P 123 (Dev.); F 127; 10R5; 10R8 (Dev.); 12R3 (Dev.); 17R1 (Dev.); 17R2; 17R4; 17R8 (Exp.); 22R4 (Dev.); 25R1 (Dev.); 25R2; 25R4; 25R5 (Dev.); 25R8 (Dev.); 31R1; 31R2 (Dev.); 31R4 (Dev.)	
TETRONIC Block Copolymer Surfactants	87
304 (Dev.); 504 (Exp.); 701; 702 (Exp.); 704 (Exp.); 707 (Exp.); 901; 904; 908; 909 (Exp.); 1101 (Exp.); 1102 (Exp.); 1104 (Exp.); 1107 (Dev.); 1301 (Dev.); 1302 (Exp.); 1304 (Exp.); 1307 (Dev.); 1501; 1502 (Exp.); 1504 (Exp.); 1508 (Dev.); 50R1 (Exp.); 50R4 (Dev.); 50R8 (Exp.); 70R1 (Exp.); 70R2 (Exp.); 70R4 (Exp.); 90R1 (Exp.); 90R4; 90R8 (Dev.); 110R1 (Exp.); 110R2 (Exp.); 110R7 (Exp.); 130R1 (Exp.); 130R2 (Dev.); 150R1 (Dev.); 150R4 (Dev.); 150R8 (Exp.)	
Capital City Products Co.	92
Surfactants	92
ACCOMID Surfactants	92
ACCOMID C; ACCOMID PK	
ACCONON Surfactants	92
ACCONON TGH; ACCONON ETG; ACCONON CON; ACCONON 1300; ACCONON CA-5; ACCONON CA-8; ACCONON CA-15; ACCONON E; ACCONON 200-MS; ACCONON 400-MS; ACCONON 400-MO	
Central Soya	94
Special Grade Lecithins	94
CENTROLEX Series	95
CENTROLEX P; CENTROLEX F	
CENTROLENE Series	95
CENTROLENE A; CENTROLENE S	
CENTROPHIL Series	96
CENTROPHIL W; CENTROPHIL CR3	
CENTROPHASE Series	96
CENTROPHASE 31; CENTROPHASE C; CENTROPHASE 152; CENTROPHASE HR; CENTROPHASE HR2; CENTROPHASE HR3	
CENTROMIX Series	97
CENTROMIX LP-250; CENTROMIX LP-200	
CENTROL Series	98
CENTROL CA; CENTROL 2F-UB; CENTROL 2F-SB; CENTROL 2F-DB; CENTROL 3F-UB; CENTROL 3F-SB; CENTROL 3F-DB	
ACTIFLO Series	99
ACTIFLO 68-UB; ACTIFLO 68-SB; ACTIFLO 68-DB	

Continental Chemical Co.	101
CONCO Surfactants	101
CONCO 2EP; CONCO 2EP Acid; CONCO 2A1; CONCO 3B2; CONCO 2A1 Acid; CONCO 3B2 Acid; CONCO 4C3; CONCO SULFATE A; CONCO SULFATE P; CONCO SULFATE EP; CONCO SULFATE TL; CONCO SULFATE RA; CONCO SULFATE WAS; CONCO SULFATE WA SPECIAL; CONCO SULFATE WA DRY; CONCO SULFATE WAG; CONCO SULFATE 216; CONCO SULFATE 219; CONCO SULFATE 219 SPECIAL; CONDENSATE PA; CONDENSATE PE; CONDENSATE PM; CONDENSATE PO; CONDENSATE PL; CONDENSATE PS; CONDENSATE NP; CONDENSATE CO; CONDENSATE PN; CONDENSATE 640; CONCO AAS SPECIAL 3; CONCO AAS SPECIAL 3H; CONCO AAS-60S; CONCO AAS-98S; CONCO ATR-98S; CONCO AOS-40; CONCO AOS-90F; CONCO AAS-45S; CONCO AAS-75S; CONCO SXs	
CONCO XA Series	111
CONCOFAC Series of Phosphated Surface Active Agents	112
CONCOFAC 105; CONCOFAC 140; CONCOFAC 610; CON- COFAC 690; CONCOFAC 925	
CONCO NI Series	114
CONCO NI-21; CONCO NI-43; CONCO NI-60; CONCO NI-90; CONCO NI-100; CONCO NI-110; CONCO NI-150; CONCO NI-185; CONCO NI-187; CONCO NI-190; CONCO NI-197; CONCO NI-2000	
CONCO DISPERSANT K	116
Croda Surfactants, Inc.	117
Alkanolamides	117
INCROMIDE ALD; INCROMIDE AVD; INCROMIDE BAD; INCROMIDE BED; INCROMIDE BEM; INCROMIDE CA; INCROMIDE CAL; INCROMIDE LEP; INCROMIDE CM; INCROMIDE L90; INCROMIDE LL; INCROMIDE LR; INCROMIDE LA; INCROMIDE LLA; INCROMIDE LM-70; INCROMIDE LMM; INCROMIDE LI; INCROMIDE LMI; INCROMIDE LMD; INCROMIDE MINK D; INCROMIDE OLD; INCROMIDE OM; INCROMIDE OPD; INCROMIDE OPM; INCROMIDE SED; INCROMIDE SM; INCROMIDE UM; INCROMIDE WGD	
Amine Amides	123
INCROMINE ALB; INCROMINE AVB-CG; INCROMINE BAB; INCROMINE BB; INCROMINE CB; INCROMINE CPM; INCROMINE IB; INCROMINE ISM; INCROMINE LSB; INCROMINE MINK B; INCROMINE OLB; INCROMINE OPB; INCROMINE PB; INCROMINE SB; INCROMINE SEB; INCROMINE TB; INCROMINE WGB	
Amine Oxides	126
INCROMINE OXIDE AL; INCROMINE OXIDE AV;	

<i>INCROMINE OXIDE BA; INCROMINE OXIDE B-30P; INCROMINE OXIDE C; INCROMINE OXIDE I; INCROMINE OXIDE ISMO; INCROMINE OXIDE L; INCROMINE OXIDE L-40; INCROMINE OXIDE M; INCROMINE OXIDE MC; INCROMINE OXIDE MINK; INCROMINE OXIDE O; INCROMINE OXIDE OD-50; INCROMINE OL; INCROMINE OXIDE S; INCROMINE OXIDE SE; INCROMINE OXIDE WG</i>	
Amphoteric.....	130
<i>INCRONAM AL-30; INCRONAM AV-30CG; INCRONAM BA-30; INCRONAM B-40; INCRONAM 30; INCRONAM I-30; INCRONAM ISM30; INCRONAM MINK 30; INCRONAM OP30; INCRONAM OL-30; INCRONAM P-30; INCRONAM SE-30; INCRONAM WG-30</i>	
Behenyl Surfactants.....	132
Alkanolamides	132
<i>INCROMIDE BED; INCROMIDE BEM</i>	
Amine Amide.....	132
<i>INCROMINE BB</i>	
Amine Oxide	132
<i>INCROMINE OXIDE B-30P</i>	
Betaine	132
<i>INCRONAM B-40</i>	
Quaternaries.....	132
<i>INCROQUAT B-85; INCROQUAT DBM-90; INCROQUAT BEHENYL TMS</i>	
Blends.....	133
<i>INCROCHEM SC-1; INCROCHEM SC-4; INCROCHEM PPI</i>	
Specialties	133
<i>INCROPEARL Liquid; INCROPEARL NI</i>	
Cationic Salts.....	134
<i>INCROMATE CDL; INCROMATE CDP; INCROMATE CPML; INCROMATE IDL; INCROMATE ISML; INCROMATE LDL; INCROMATE ODL; INCROMATE SDL</i>	
Cosmetic Conditioners	136
<i>INCROQUAT AL-85; INCROQUAT AV-85CG; INCROQUAT BA-85; INCROQUAT B-85; INCROQUAT BEHENYL TMS; INCROQUAT CR Concentrate; INCROQUAT CTC-25; INCROQUAT CTC-30; INCROQUAT DBM-90; INCROQUAT DCQ-75; INCROQUAT I-85; INCROQUAT LI-85; INCROQUAT MINK-85; INCROQUAT O-50; INCROQUAT OL-85; INCROQUAT S-75CG; INCROQUAT S-85; INCROQUAT SDQ-25; INCROQUAT SE-85; INCROQUAT SM-90; INCROQUAT WG-85</i>	
Ethoxylated Alcohols.....	140
<i>INCROPOL CS-12; INCROPOL CS-20; INCROPOL CS-30; INCROPOL CS-50; INCROPOL L-2; INCROPOL L-7; INCROPOL L-7-90; INCROPOL L-12; INCROPOL L-23;</i>	

<i>INCROPOL L-30</i>	
Ethoxylated Castor Oils	141
<i>INCROCAS 10; INCROCAS 30; INCROCAS 40; INCROCAS 60; INCROCAS 100</i>	
Exotic Naturally Derived Surfactants	142
Alkanolamides	142
<i>INCROMIDE ALD; INCROMIDE AVD; INCROMIDE BAD; INCROMIDE MINK D; INCROMIDE OLD; INCROMIDE SED; INCROMIDE WGD</i>	
Amine Amides	142
<i>INCROMINE ALB; INCROMINE AVB-CG; INCROMINE BAB; INCROMINE MINK B; INCROMINE OLB; INCROMINE SEB; INCROMINE WGB</i>	
Amine Oxides	142
<i>INCROMINE OXIDE AL; INCROMINE OXIDE AV; INCROMINE OXIDE BA; INCROMINE OXIDE MINK; INCROMINE OXIDE OL; INCROMINE OXIDE SE; INCROMINE OXIDE WG</i>	
Betaines	142
<i>INCRONAM AL-30; INCRONAM AV-30CG; INCRONAM BA-30; INCRONAM MINK-30; INCRONAM OL-30; INCRONAM SE-30; INCRONAM WG-30</i>	
Quaternaries	142
<i>INCROQUAT AL-85; INCROQUAT AV-85CG; INCROQUAT BA-85; INCROQUAT MINK-85; INCROQUAT OL-85; INCROQUAT SE-85; INCROQUAT WG-85</i>	
Fabric Softeners	143
<i>INCROSOFT S-75; INCROSOFT S-90; INCROSOFT S-90M; INCROSOFT T-75; INCROSOFT T-90; INCROSOFT T-90HV; INCROSOFT 248; INCROSOFT CFI-75</i>	
Humectants	145
<i>INCROMECTANT AMEA-70; INCROMECTANT AMEA-100; INCROMECTANT LMEA; INCROMECTANT LMEA</i>	
Sulfosuccinates	146
<i>INCROSUL LAFS; INCROSUL LMA; INCROSUL LMS; INCROSUL LS; INCROSUL LSA; INCROSUL LTS; INCROSUL TS; INCROSUL UMS-45; INCROSUL OMS</i>	
DeSoto, Inc.	148
Surfactants	148
Alkyl Sulfates	148
<i>DESONOL A; DESONOL S; DESONOL T</i>	
Alkyl Ether Sulfates	148
<i>DESONOL AE; DESONOL SE; DESONOL SE-2</i>	
Alkyl Aryl Sulfonates	148
<i>DESONATE SA; DESONATE SA-H; DESONATE 50-S; DESONATE 60-S; DESONATE 60-T; UDET 950</i>	
Olefin Sulfonates	149
<i>DESONATE AOS</i>	

Blends	150
<i>DESODET B-1; DESODET B-2; DESODET 804;</i> <i>DESODET LL</i>	
Surfatropes	150
<i>PETRO AA; PETRO BA; PETRO LBA; PETRO BAF;</i> <i>PETRO LBAF; PETRO P; PETRO 11; PETRO 22; PETRO</i> <i>ULF</i>	
Octyl Phenol Ethoxylates	152
<i>DESONIC S-45; DESONIC S-100; DESONIC S-102;</i> <i>DESONIC S-114; DESONIC S-405</i>	
Nonyl Phenol Ethoxylates	153
<i>DESONIC 1.5N; DESONIC 4N; DESONIC 5N; DESONIC</i> <i>6N; DESONIC 7N; DESONIC 9N; DESONIC 10N; DESONIC</i> <i>11N; DESONIC 12N; DESONIC 15N; DESONIC 20N;</i> <i>DESONIC 30N; DESONIC 30N70; DESONIC 40N;</i> <i>DESONIC 40N70; DESONIC 50N; DESONIC 50N70;</i> <i>DESONIC 100N; DESONIC 100N70</i>	
Dodecyl Phenol Ethoxylates	156
<i>DESONIC 6D; DESONIC 9D; DESONIC 10D; DESONIC</i> <i>12D</i>	
Tridecyl Alcohol Ethoxylates	156
<i>DESONIC 6T; DESONIC 9T; DESONIC 12T; DESONIC 15T;</i> <i>FLO-MO AJ-100; FLO-MO AJ-85</i>	
Decyl Alcohol Ethoxylates	157
<i>DESONIC DA-4; DESONIC DA-6</i>	
Linear Alcohol Ethoxylates	158
<i>DESONIC 3K; DESONIC 5K; DESONIC 7K; DESONIC 9K;</i> <i>DESONIC 12K</i>	
Castor Oil Ethoxylates	159
<i>DESONIC 30C; DESONIC 36C; DESONIC 40C; DESONIC 54C</i>	
Esters and Ethoxylated Esters	159
<i>DESOTAN SMO; DESOTAN SMT; DESOTAN SMO-20;</i> <i>DESOTAN SMT-20</i>	
Ethoxylated Amines	160
<i>DESOMEEN TA-2; DESOMEEN TA-15; DESOMEEN TA-20</i>	
Dow Chemical U.S.A..	161
DOWFAX Surfactants	161
<i>DOWFAX 2AO; DOWFAX 2A1; DOWFAX 3BO; DOWFAX</i> <i>3B2; XDS 30237.00; XDS 8390.00</i>	
DuPont Co.	164
DUPONOL Alkyl Sulfate Surfactants	164
<i>DUPONOL SP; DUPONOL WN; DUPONOL WAQ;</i> <i>DUPONOL WAQE; DUPONOL QC; DUPONOL WA Paste</i> <i>DUPONOL ME Dry; DUPONOL C; DUPONOL D;</i> <i>DUPONOL LS; DUPONOL G; DUPONOL EP; DUPONOL RA;</i> <i>DUPONOL XL; DUPONOL FAS</i>	
Alkyl Sulfate Surfactant	166
AVITEX AD	

DuPont Sulfonate Surfactants	167
<i>PETROWET R; ALKANOL 189-S; ALKANOL XC;</i> <i>ALKANOL WZN; ALKANOL ND</i>	
Surfactants	168
Sulfonates, Aliphatic	168
<i>ALKANOL 189-S; PETROWET R</i>	
Sulfonates, Alkylaryl	168
<i>ALKANOL ND; ALKANOL XC; ALKANOL WZN</i>	
Nonionic-Alcohol/Ethylene Oxide Adducts	169
<i>MERPOL 100 (HLB = 13.5); MERPOL HCS (HLB = 15.3);</i> <i>MERPOL OJ (HLB = 12.5); MERPOL SE (HLB = 10.5);</i> <i>MERPOL SH (HLB = 12.8)</i>	
Nonionic-Specialties	170
<i>ALKANOL A-CN; MERPOL A; MERPOL DA; MERPOL LF-H;</i> <i>ALKANOL 6112</i>	
Fluorosurfactants-Anionic	171
<i>ZONYL FSA; ZONYL FSE; ZONYL FSJ; ZONYL FSP;</i> <i>ZONYL TBS; ZONYL UR</i>	
Fluorosurfactants-Cationic	171
<i>ZONYL FSC</i>	
Fluorosurfactants-Nonionic	172
<i>ZONYL FSN; ZONYL FSN-100; ZONYL FSO; ZONYL FSO-</i> <i>100</i>	
Fluorosurfactants-Amphoteric	172
<i>ZONYL FSK</i>	
Emery Industries, Inc.	173
EMEREST Alkyl and Glycol Esters	173
<i>EMEREST 2301 Methyl Oleate and EMEREST 2302 Propyl</i> <i>Oleate; EMEREST 2308 Tridecyl Stearate; EMEREST 2314</i> <i>Isopropyl Myristate; EMEREST 2316 Isopropyl Palmitate;</i> <i>EMEREST 2325; EMEREST 2326 Butyl Stearate; EMEREST</i> <i>2350 Ethylene Glycol Monostearate; EMEREST 2355 Ethyl-</i> <i>ene Glycol Distearate; EMEREST 2381 Propylene Glycol</i> <i>Monostearate; EMEREST 2485 Pentaerythritol Tetrapelargon-</i> <i>ate</i>	
EMEREST Glycerol Esters	176
<i>EMEREST 2400 Glycerol Monostearate; EMEREST 2401</i> <i>Glycerol Monostearate; EMEREST 2407 Glycerol Mono-</i> <i>stearate, SE; EMEREST 2421 Glycerol Monooleate; EMEREST</i> <i>2423 Glycerol Trioleate; EMEREST 2426 Glycerol Dioleate</i>	
EMERSAL Alkyl and Alkyl Ether Sulfates.	178
<i>EMERSAL 6400 Sodium Lauryl Sulfate; EMERSAL 6430</i> <i>Ammonium Lauryl Sulfate; EMERSAL 6434 Triethanolamine</i> <i>Lauryl Sulfate; EMERSAL 6453 Sodium POE (3) Lauryl Sul-</i> <i>cate; EMERSAL 6462 Sodium Alkyl Sulfate; EMERSAL</i> <i>6465 Sodium 2-Ethylhexyl Sulfate</i>	
EMID Alkanolamides	180
<i>EMID 6500 Coconut Monoethanolamide; EMID 6511 Lauric</i>	